

## WHAT IS CLAIMED IS:

1. A switching constant-current power supply system including:

5 a switching-type first power converter circuit operable, in response to supply of power from an external power source, to generate a stable DC voltage;

a second power converter circuit capable of functioning as a DC-AC converter and operable, in response to supply of said DC voltage, to supply an AC or pulsed current to a load;

10 a current detector circuit for generating a feedback signal in proportion to a load current; and

a control circuit for controlling the operation of said first power converter circuit according to said feedback signal, said switching constant-current power supply system comprising:

15 a feedback circuit provided between said current detector circuit and said control circuit, said feedback circuit including a signal hold section for holding a signal, said feedback circuit being operable to supply either one of a first feedback signal generated from said current detector circuit and a second feedback signal generated from said signal hold section, wherein said second feedback signal has a signal value approximately equal to that of said first feedback signal at a certain time point.

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2. The switching constant-current power supply system as defined in claim 1, wherein said signal hold section provided in said feedback circuit is operable to refer to the first feedback signal at a certain time point when the load current flows, and then generate the second feedback signal approximately equal to said first feedback signal,

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wherein said feedback circuit is operable to supply the first feedback signal to said control circuit when the load current flows, and to supply said second feedback signal to said control circuit when no load current flows.

3. The switching constant-current power supply system as defined in claim 2, wherein said signal hold section includes a peak hold circuit, wherein said second feedback signal is approximately equal to a maximum value of said first feedback signal generated when the load current flows.

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4. The switching constant-current power supply system as defined in claim 3, wherein said signal hold section further includes a reset circuit operable, in response to the change from the state where no load current flows to the state where the load current flows, to supply a signal for allowing said peak hold circuit to be returned to its initial state.

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5. The switching constant-current power supply system as defined in claim 2, wherein said load includes a light-emitting diode to be turned on and off at a high speed, wherein said switching constant-current power supply system is operable, to supply a given current to said light-emitting diode when said light-emitting diode is in its ON state.

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6. The switching constant-current power supply system as defined in claim 3, wherein said load includes a light-emitting diode to be turned on and off at a high speed, wherein said switching constant-current power supply system is operable, to supply a given current to said light-emitting diode when said light-emitting diode is in its ON state.

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7. The switching constant-current power supply system as defined in claim 4, wherein said load includes a light-emitting diode to be turned on and off at a high speed, wherein said switching constant-current power supply system is operable, to supply a given current to said light-emitting diode when said light-emitting diode is in its ON state.

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